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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/577,521	04/27/2006	Shinya Takagi	034620-143	6836

7590 04/09/2008
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EXAMINER

RAMADAN, RAMY O

ART UNIT	PAPER NUMBER
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2838

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04/09/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/577,521	Applicant(s) TAKAGI ET AL.	
	Examiner RAMY RAMADAN	Art Unit 2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/12/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 2 and 6 are objected to because of the following informalities:

The limitation “said charging current output unit is a power source according to the constant current charging technique” is indefinite, since it is not clear what the applicant means by the limitation “according to the constant current charging technique”, for examination purposes the limitation has been interpreted as the charging current output unit is a power source capable of delivering constant charging current (claim 2).

The terms “the prescribed” lacks antecedent basis and should read as the --the preset voltage-- and the term “said prescribed voltage” should also read as --said preset voltage—(claim 6, lines 3-4).

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Tsuji et al. (JP09308126A).**

Tsuji discloses and shows in Fig. 1, a charger comprising:

a cell group (1) (an assembled battery) having plural secondary cells (1a-1n) (secondary batteries) serially connected;

a battery charger (6) (a charge power source unit) for supplying charging current to both ends of the cell group (1);

plural bypass circuits (4) (charge controllers) connected to both ends of the respective secondary cells (1a-1n),

wherein said battery charger (6) outputs charging current to said cell group (1) (Machine Translation, Para [0007]-[0009]) and controls the output charging current based on a saturated signal (notification) of bypass current from said bypass circuits (4) (Page 3, Para [0010]);

and each of said bypass circuits (4) comprises:

a bypass current control section (2) for bypassing the current that flows to said secondary cells (1a-1n) when the terminal voltage of said secondary cells (1a-1n) reaches a programmed (preset) voltage value (Para [0008] and [0010]); and

a current saturation primary detecting element (3) (notification unit) for sending (notifying) to the battery charger (6) a saturated bypass current signal to notify of a bypass current (Para [0007] and [0010]).

As per claim 2, Tsuji discloses that the battery charger (6) provides constant power charge (Para [0006] and Para [0010]).

As per claim 3, Tsuji discloses that the battery charger (6) controls the charging current until there is no current bypassed (bypass current is approximately zero) and the charging current then will be suspended (zero current) (Para [0011]).

As per claim 4, Tsuji discloses that the battery charger (6) controls the output charging current by shifting to a multi stage constant current charge so that, in the case where the bypass current is saturated to the capacity of the bypass current (preset threshold bypass current value) and a saturated bypass signal is sent from any bypass circuit (4) to the battery charger, said bypass current become below said bypass capacity as a result of the decrease in the charging current (Para [0009]-[0011], Para [0013] and Para [0021]).

As per claim 5, Tsuji teaches that if the terminal voltage of a cell is at or above a programmed voltage, a charging current is bypassed, but if the terminal voltage does not exceed the programmed voltage (voltage is lower than a presetting value), no charging current is bypassed and no saturated bypass signal is sent to the battery charger (6) (Page 3, Para [0008]) and in this case, the output charging current gradually increases, which makes the terminal voltage of the cell rises according to progress of charging time (Para [0009]-[0010]).

As per claim 6, Tsuji discloses that the bypass current control section (2) bypasses (which would inherently discharges) the secondary battery cells (1a-1n) so that the voltages of said secondary batteries are lowered to the programmed voltage in the case where said terminal voltages of said secondary battery cells (1a-1n) were above said programmed voltage at anytime (Para [0010]).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RAMY RAMADAN whose telephone number is (571) 272-9761. The examiner can normally be reached on Mon-Fri 7:30 am-5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Akm Ullah can be reached on (571) 272-2361. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

4/7/2008

/Gary L. Laxton/
Primary Examiner
Art Unit 2838

/RR/